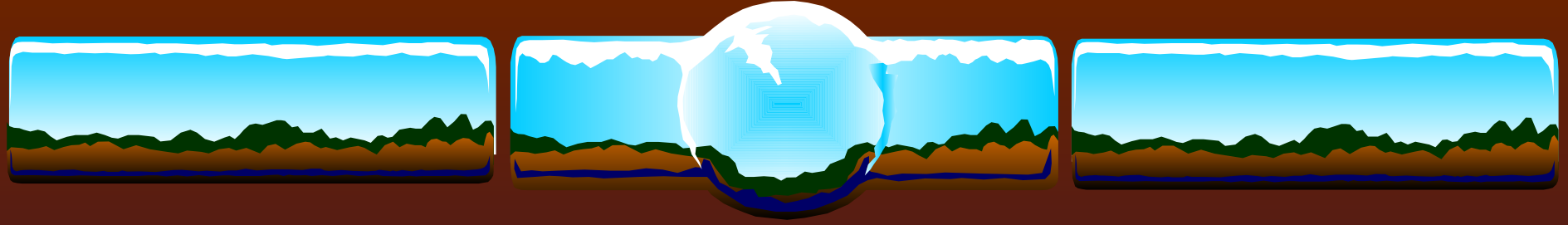


SPiRiT and SDD Training Course

Designing for the Present and the Future

SPiRiT Goes Beyond

- SPiRiT covers aspects of the design process that LEED™ does not.
- These are the:
  - Facility Delivery Process
  - Current Mission
  - Future Mission
- A total of 5 credits for up to 17 points.

Facility Delivery Process

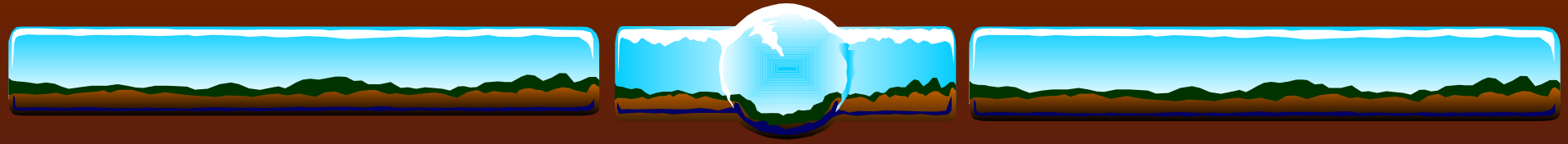
Credit 1: Holistic Delivery of Facility – 1 Point

- Intent: Encourage a facility delivery process that actively engages all stakeholders in the design process to deliver a facility that meets all functional requirements while effectively optimizing tradeoffs among sustainability, first costs, life cycle costs and mission requirements.

Facility Delivery Process

Credit 1: Holistic Delivery of Facility – 7 Points

- Requirements:
  - Choose team leaders that are experienced in holistic delivery of facilities (1 point).
  - Train the entire team in the holistic delivery process. The team must include all stakeholders in the facility delivery, including the users, the contracting staff, the construction representatives, project manager, and design/engineering team members (1 point).
  - Identify project goals and metrics (1 point).



Facility Delivery Process

Credit 1: Holistic Delivery of Facility – 7 Points

- Plan and execute charrettes with team members at critical phases of the facility delivery (1 point).
- Identify and resolve tradeoffs among sustainability, first costs, life cycle costs and mission requirements through charrettes and other collaborative processes (2 points).
- Document required results for each phase of project deliverables that achieve the project goals and are measurable throughout the facility life span (1 point).

Facility Delivery Process

Credit 1: Holistic Delivery of Facility – 7 Points

- Technologies/Strategies:
  - Develop performance specifications or choose competitive range of products that meet environmental criteria.
  - Use automated modeling and analysis tools to assess site and facility design alternatives.
  - Conduct life-cycle cost analysis (LCCA) in the design process according to the Federal Facilities Council Technical Report, Sustainable Federal Facilities: A Guide To Integrating Value Engineering, Life Cycle Costing, and Sustainable Development, FFC # 142, 2000.

Facility Delivery Process

Credit 1: Holistic Delivery of Facility – 7 Points

- Conduct a full ecological assessment to include soil quality, water resources and flows, vegetation and trees, wildlife habitats and corridors, wetlands, and ecologically sensitive areas to identify the least sensitive site areas for development.
- Evaluate space utilization/functions to reduce overall space requirements, considering networking, flextime, flexi-place, dual-use, and other strategies to reduce space requirements/optimize facility size

Current Mission

Credit 1: Operation and Maintenance – 3 Points

Intent: Encourage the development of a facility delivery process that enhances efficient operation and maintenance of the facility.

Requirements:

- Develop a facility operations and maintenance program to include (2 points):
  - Commissioning instructions for all facility systems.
  - Comprehensive facility operations and maintenance instructions for system operation, performance

Current Mission

Credit 1: Operation and Maintenance – 3 Points

verification procedures and results, an equipment inventory, warrantee information, and recommended maintenance schedule. The instructions should include a comprehensive, preventive maintenance program to keep all facility systems functioning as designed.

- A periodic training program for occupants, facilities managers, and maintenance staff in all facility operations and maintenance activities.
- Instructions on sustainable cleaning and pest control practices.
- A comprehensive site/facility recycling/waste management plan.

Current Mission

Credit 1: Operation and Maintenance – 3 Points

- Requirements:
  - Provide surfaces, furnishings, and equipment that are appropriately durable, according to life cycle cost analysis (1 point).
- Technologies/Strategies:
  - Maintain facility elements, systems and sub-systems on a routine maintenance schedule to ensure integrity and longevity.

Current Mission

Credit 1: Operation and Maintenance – 3 Points

- Technologies/Strategies (cont):
  - Perform scheduled cleaning and maintenance activities with nontoxic environmentally preferable cleaning products and procedures. Keep air ducts clean and free of microorganisms through a structured program of preventive maintenance. Clean lighting systems following a regular maintenance schedule to ensure optimum light output and energy efficiency.

Current Mission

Credit 1: Operation and Maintenance – 3 Points

- Technologies/Strategies (cont):
  - Use pesticides and herbicides sparingly and only when necessary with preference to natural methods and materials over poisons and toxic agents.
  - Use automated monitors and controls for energy, water, waste, temperature, moisture, and ventilation monitors and controls. Turn off the lights, computers, computer monitors, and equipment when not in use. Enable power-down features on office equipment.

Current Mission

Credit 2: Soldier and Workforce Productivity and Retention – 3 Points

Intent:

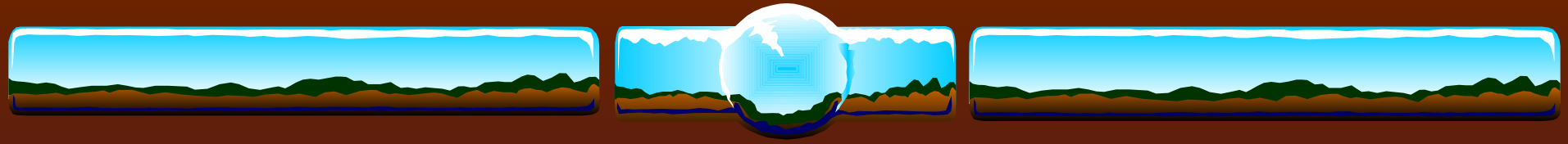
Provide a high-quality, functional, healthy and safe work environment to promote soldier and workforce productivity and retention.

Current Mission

Credit 2: Soldier and Workforce Productivity and Retention – 3 Points

Requirements:

- Provide a high quality indoor environment to enhance user/occupant quality of life (QOL) (1 point).
- Provide a highly functional work environment to promote user/occupant work productivity (1 point).
- Provide a healthy and safe work environment to sustain QOL and productivity (1 point).



Current Mission

Credit 2: Soldier and Workforce Productivity and Retention – 3 Points

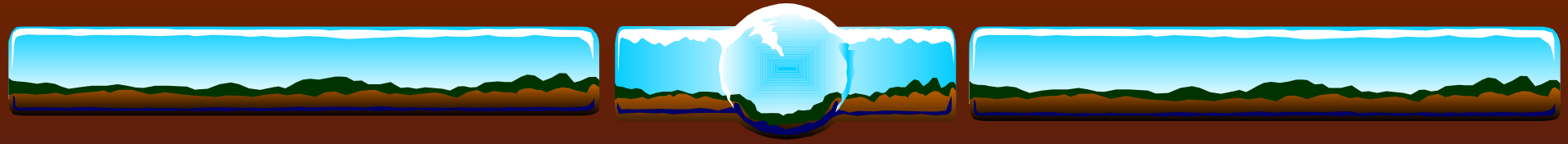
Technologies/Strategies:

Use a registered/certified interior designer to provide stimulating interior environments with pleasant colors, surface treatments, room proportions and ceiling heights, external views, natural lighting, and quality detailing for interior furnishings, equipment, materials and finishes. Use IES standards to provide light to occupied space with variations in level, comfortable contrasts, natural color rendition, natural/man-made, and adequate controls to optimize light aesthetic qualities. Provide occupant control of individual work areas configuration, and lighting, thermal and ventilation systems.

Current Mission

Credit 2: Soldier and Workforce Productivity and Retention – 3 Points

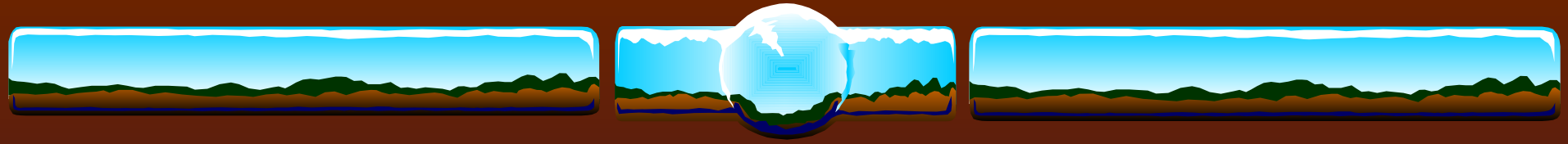
Collaborate with end users to identify functional and technical requirements and to perform adjacency studies. Configure occupied space to address the specific workers/occupants functions and activities that will be carried out there. Meet TI 800-01 Design Guide requirements. Design and configure occupied space, and select furniture and equipment using human ergonomics.



Current Mission

Credit 2: Soldier and Workforce Productivity and Retention – 3 Points

Identify existing user amenities, such as dining, recreation, socialization, shopping and child care facilities. Identify what amenities should be incorporated into the project or provided in a future, nearby facility. Provide ventilation air in sufficient volume free from natural and man made contaminants.



Future Missions

Credit 1: Functional Life of Facility and Supporting Systems – 2 Points

- Intent: Assess the functional life of a facility and its supporting systems to optimize the infrastructure investment.
- Requirements:
  - Identify how long the designed function is likely to occupy the current facility (1 point).

Future Missions

Credit 1: Functional Life of Facility and Supporting Systems – 2 Points

- Identify how long the envelope, structure, HVAC, plumbing, communications, electrical, and other systems are likely to last before requiring replacement or upgrade. Consider economic, functional and physical obsolescence (1 point).

Future Missions

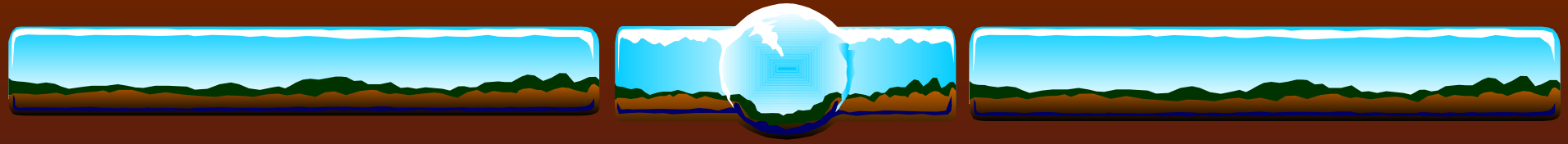
Credit 1: Functional Life of Facility and Supporting Systems – 2 Points

- Technologies/Strategies:
  - Assess the typical or likely lifespan of the function(s) to be accommodated to forecast eventual adaptation to a different use(s). Assess the life spans of the various building systems/components to forecast their revision/replacement during the facility lifespan and design in a manner that facilitates revision/replacement.

Future Missions

Credit 1: Functional Life of Facility and Supporting Systems – 2 Points

- Technologies/Strategies (cont):
  - Consider the life span of the weapon systems, doctrines, or other programs supported by the facility.
  - Use life cycle data and other sources to identify the life span of the embodied systems.

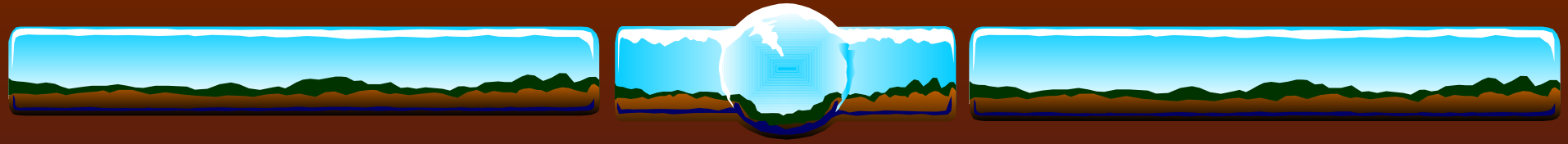


Future Missions

Credit 2: Adaptation, Renewal, and Future Uses – 2 Points

Intent:

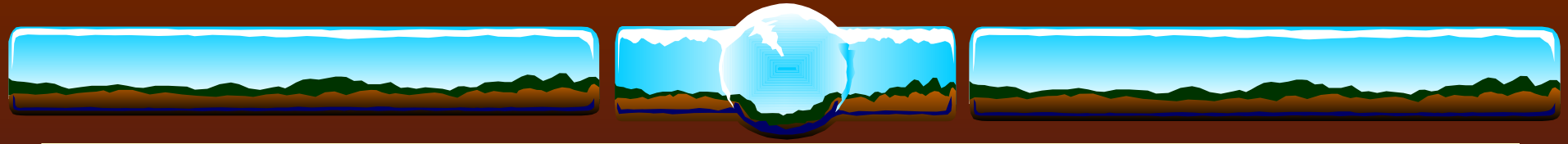
Encourage facility design that is responsive to change over time to maximize accommodation of future uses without creating waste and insuring maximum useful life of products.



Future Missions

Credit 2: Adaptation, Renewal, and Future Uses – 2 Points

- Requirements:
  - Identify possible future uses for the facility; consider alternatives that expand the list of possible future uses. AND Design the building to accommodate as wide a range of future uses, as practical. AND Design the installation of building systems to accommodate foreseeable change with a minimum amount of disruption, cost, and additional materials (1 point).



Future Missions

Credit 2: Adaptation, Renewal, and Future Uses – 2 Points

- Build the smallest facility necessary to meet current mission functional requirements, using the most efficient shape and form, while taking into consideration expansion capabilities and potential future mission requirements. AND Design the facility for recycling of materials and systems (1 point).

Future Missions

Credit 2: Adaptation, Renewal, and Future Uses – 2 Points

- Technologies/Strategies:
  - Create durable, long-lasting and adaptable facility shell and structural system. Create an adaptable, flexible facility design using open planning, service corridors, interstitial space, access floors, demountable walls/partitions, modular furniture and other adaptable space configuration/utilization strategies.

Future Missions

Credit 2: Adaptation, Renewal, and Future Uses – 2 Points

- Technologies/Strategies (cont):
  - Select materials that are recyclable, avoiding composite materials, such as reinforced plastics and carpet fibers and backing. Consider selecting materials and labeling construction materials with identification information to facilitate recycling. Use pre-cut/pre-fabricated materials and use standard lengths and sizes (dimensional modularity) in design. Design facility systems and subsystems for reconfiguration and/or disassembly/recycling using reversible/reusable connectors.

General Comments

- This whole section is additive to LEED.
- There are little or no specifications or standards on which to base these credits.
- These credits do have some redundancy with other SPiRiT credits and, therefore, meeting them will help to meet these and vice versa.
- There are no credits in SPiRiT for innovation.